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LISTING OF THE CLAIMS

CLAIMS

1. (currently amended) A transducer for detecting movement of an article mounted for movement in a plane, the transducer comprising:

the article;

a heater facing the plane of movement of the article and having a temperature dependent resistance; and,

an edge defined in the article between regions of different thermal conductivity; wherein, as the article ~~describes~~ undergoes the movement, the edge moves relative to the heater producing a corresponding variation in heat loss from the heater and a corresponding variation in resistance of the heater.

2. (original) A transducer as claimed in claim 1, wherein the article is mounted for translational movement in the plane.

3. (original) A transducer as claimed in claim 2, wherein the edge is located in a plane surface of the article.

4. (original) A transducer as claimed in claim 3, wherein the edge is rectilinear.

5. (previously presented) A transducer as claimed in claim 4, wherein the heater comprises an elongated body overlapping and extending parallel to the plane surface and perpendicular to the edge.

6. (previously presented) A transducer as claimed in claim 5, wherein the elongated body comprises a silicon cantilever having a doped resistive region formed therein.

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1 7. (previously presented) A transducer as claimed in claim 5, wherein the edge is located on the
2 periphery of the plane surface.

3 8. (previously presented) A transducer as claimed in claim 5, wherein the edge is formed as a
4 step in the plane surface.

5 9. (previously presented) A movement detection system for detecting movement of an article
6 mounted for movement in a plane, the system comprising: first and second transducers as
7 claimed in claim 5 operative in opposite directions along a common axis of movement of the
8 article in the plane.

9 10. (original) A movement detection system as claimed in claim 9, wherein the first and second
10 transducers respectively face first and second parallel edges of the surface.

11 11. (previously presented) A movement detection system for detecting movement of an article
12 mounted for movement in a plane, the system comprising: first and second transducers as
13 claimed in claim 5 operative in orthogonal directions of movement of the article in the plane.

14 12. (original) A movement detection system as claimed in claim 11, wherein the first and second
15 transducers respectively face first and second orthogonal edges of the surface.

16 13. (previously presented) A local probe storage device comprising: storage surface, local probe
17 storage array having a plurality of tips facing the storage surface; a scanner for moving the
18 storage surface relative to the array in a plane parallel to the array; and a movement detection
19 system as claimed in claim 9 for detecting movement of the storage surface relative to the array.
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21 14. (original) A transducer as claimed in claim 1, wherein the surface is mounted for rotational
22 movement parallel to the heater about an axis of rotation.

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1 15. (original) A transducer as claimed in claim 14, wherein the edge is in the form of a side of a
2 slot formed in the surface and extending radially from the axis of the rotation.

3 16. (original) A transducer as claimed in claim 14, wherein the surface comprises a spoke
4 extending radially from the axis of rotation and the edge comprises a side of the spoke.

5 17. (original) A method for detecting movement of an article mounted for movement in a plane,
6 the method comprising: locating a heater having a temperature dependent resistance to face the
7 plane of movement of the article; defining an edge in the article between regions of different
8 thermal conductivity; and, detecting variation in resistance of the heater corresponding to
9 variation in heat loss from the heater as the edge moves relative to heater during movement of the
10 article in the plane.

11 18. (previously presented) A method as claimed in claim 17, wherein the edge is located in a
12 plane surface of the article.

13 19. (previously presented) A method as claimed in claim 18, wherein the edge is rectilinear, and
14 wherein the heater comprises an elongated body overlapping and extending parallel to the plane
15 surface and perpendicular to the edge.

16 20. (currently amended) A method as claimed in claim 19, for detecting movement of an article
17 mounted for movement in a plane, the method comprising: locating a heater having a
18 temperature dependent resistance to face the plane of movement of the article; defining an edge
19 in the article between regions of different thermal conductivity; and, detecting variation in
20 resistance of the heater corresponding to variation in heat loss from the heater as the edge moves
21 relative to heater during movement of the article in the plane, wherein the edge is located in a
22 plane surface of the article, wherein the edge is rectilinear, and wherein the heater comprises an
23 elongated body overlapping and extending parallel to the plane surface and perpendicular to the
24 edge, and

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wherein the elongated body comprises a silicon cantilever having a doped resistive region formed therein. LISTING OF THE CLAIMS

CLAIMS

1. (currently amended) A transducer for detecting movement of an article mounted for movement in a plane, the transducer comprising:

the article;

a heater facing the plane of movement of the article and having a temperature dependent resistance; and;

an edge defined in the article between regions of different thermal conductivity; wherein, as the article describes undergoes the movement, the edge moves relative to the heater producing a corresponding variation in heat loss from the heater and a corresponding variation in resistance of the heater.

2. (original) A transducer as claimed in claim 1, wherein the article is mounted for translational movement in the plane.

3. (original) A transducer as claimed in claim 2, wherein the edge is located in a plane surface of the article.

4. (original) A transducer as claimed in claim 3, wherein the edge is rectilinear.

5. (previously presented) A transducer as claimed in claim 4, wherein the heater comprises an elongated body overlapping and extending parallel to the plane surface and perpendicular to the edge.

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- 1 6. (previously presented) A transducer as claimed in claim 5, wherein the elongated body
2 comprises a silicon cantilever having a doped resistive region formed therein.
- 3 7. (previously presented) A transducer as claimed in claim 5, wherein the edge is located on the
4 periphery of the plane surface.
- 5 8. (previously presented) A transducer as claimed in claim 5, wherein the edge is formed as a
6 step in the plane surface.
- 7 9. (previously presented) A movement detection system for detecting movement of an article
8 mounted for movement in a plane, the system comprising: first and second transducers as
9 claimed in claim 5 operative in opposite directions along a common axis of movement of the
10 article in the plane.
- 11 10. (original) A movement detection system as claimed in claim 9, wherein the first and second
12 transducers respectively face first and second parallel edges of the surface.
- 13 11. (previously presented) A movement detection system for detecting movement of an article
14 mounted for movement in a plane, the system comprising: first and second transducers as
15 claimed in claim 5 operative in orthogonal directions of movement of the article in the plane.
- 16 12. (original) A movement detection system as claimed in claim 11, wherein the first and second
17 transducers respectively face first and second orthogonal edges of the surface.
- 18 13. (previously presented) A local probe storage device comprising: storage surface, local probe
19 storage array having a plurality of tips facing the storage surface; a scanner for moving the
20 storage surface relative to the array in a plane parallel to the array; and a movement detection
21 system as claimed in claim 9 for detecting movement of the storage surface relative to the array.
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1 14. (original) A transducer as claimed in claim 1, wherein the surface is mounted for rotational
2 movement parallel to the heater about an axis of rotation.

3 15. (original) A transducer as claimed in claim 14, wherein the edge is in the form of a side of a
4 slot formed in the surface and extending radially from the axis of the rotation.

5 16. (original) A transducer as claimed in claim 14, wherein the surface comprises a spoke
6 extending radially from the axis of rotation and the edge comprises a side of the spoke.

7 17. (original) A method for detecting movement of an article mounted for movement in a plane,
8 the method comprising: locating a heater having a temperature dependent resistance to face the
9 plane of movement of the article; defining an edge in the article between regions of different
10 thermal conductivity; and, detecting variation in resistance of the heater corresponding to
11 variation in heat loss from the heater as the edge moves relative to heater during movement of the
12 article in the plane.

13 18. (previously presented) A method as claimed in claim 17, wherein the edge is located in a
14 plane surface of the article.

15 19. (previously presented) A method as claimed in claim 18, wherein the edge is rectilinear, and
16 wherein the heater comprises an elongated body overlapping and extending parallel to the plane
17 surface and perpendicular to the edge.

18 20. (currently amended) A method as claimed in claim 19, for detecting movement of an article
19 mounted for movement in a plane, the method comprising: locating a heater having a
20 temperature dependent resistance to face the plane of movement of the article; defining an edge
21 in the article between regions of different thermal conductivity; and, detecting variation in
22 resistance of the heater corresponding to variation in heat loss from the heater as the edge moves
23 relative to heater during movement of the article in the plane, wherein the edge is located in a
24 plane surface of the article, wherein the edge is rectilinear, and wherein the heater comprises an

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